



Digital Sputnik

# DS1 User Manual

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## Safety instructions

1. Please read through these instructions carefully before operating the DS LED Lighting System, and keep these instructions for future reference.
  2. There are numerous safety instructions and warnings that must be followed for your own safety.
  3. DS LED Lighting Systems are not intended for residential use. They are intended for use in a professional studio or film set.
  4. Maintenance must be carried out exclusively by an authorized technician.
  5. The Systems are not for use in hazardous locations.
  6. Maximum ambient temperature for use is 55°C / 131°F.
    - 6.1 Do not cover cooling slots and/or radiator fins.
    - 6.2 Keep a clear area of 25 cm (10") from the lit face of the module.
  7. The beam intensity is high. Never look directly into the light source.
  8. Do not lift or suspend Light module or Power Supply Unit (PSU) by the cables.
  9. Do not use any module or cable that has visible damage.
  10. Connect the DS PSU unit only to a well grounded power source.
  11. Avoid contact with the LED elements, pressure on the lens may damage the LED element.
  12. Connecting any equipment from other manufacturers to the DS LED Lighting System can damage both the DS system and said equipment. Any such use will void warranty. Use the DS light modules only with a DS PSU.
  13. The System is rated for indoor use only.
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## Intended use

This product has been designed as a professional illumination tool for dry environments. Please always follow the safety instructions.

Any usage other than described in this manual is not advised and can damage the product and lead to risks such as fire, electric shock, etc. You are not allowed to modify the product.

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# 1. HARDWARE

## Parts list

### DS1 Dual System

- 1 Pcs – DS1 Dual Cardboard Box
- 2 Pcs – DS1 PSU
- 2 Pcs – DS1 AC/DC Converter
- 2 Pcs – DS Light Module RGBW
- 2 Pcs – DS Tripod Mount
- 4 Pcs – DS Eccentric Lock
- 2 Pcs – DS Light Module Cable  
2ft/0.75m
- 2 Pcs – DS1 XLR Y-Cable
- 2 Pcs – 1x1 Diffuser Lens 34/76  
with bag
- 12 Pcs – Clip
- 1 Pcs – Clip Bag
- 1 Pcs – AC Cable IEClock C13 6ft US/EU
- 2 Pcs – DS1 Module SoftBlade
- 1 Pcs – DS1 Quick Start Guide
- 1 Pcs – Softblade Quick Start Guide

### DS1 System

- 1 Pcs – DS1 Cardboard Box
- 1 Pcs – DS1 PSU
- 1 Pcs – DS1 AC/DC Converter
- 1 Pcs – DS Light Module RGBW
- 1 Pcs – DS Tripod Mount
- 2 Pcs – DS Eccentric Lock
- 1 Pcs – DS Light Module Cable 2ft/0.75m
- 1 Pcs – DS1 XLR Y-Cable
- 1 Pcs – 1x1 Diffuser Lens 34/76 with bag
- 6 Pcs – Clip
- 1 Pcs – Clip Bag
- 1 Pcs – AC Cable IEClock C13 6ft US/EU

### DS1 SYSTEM SPECIFICATIONS:

**Module type:** RGBW LED

**Beam angle:** 20 degrees

**Remote control options:** Wired (RDM/DMX), Wireless (Art-Net).

**Operating temperature range:** 0°F ~ 115°F/-20°C ~ 45°C

**Input power:** 90-260 VAC (Worldwide)Power Convertor/ 12 to 36 VDC Battery

**Cables from PSU to LED module:** 2ft/0.75m

**Maximum power draw per DS1 PSU:** 100 W

**Dimensions of a single light module:** 116 x 116 mm/4 x 4 in square, 2.8lb/1.3kg

**Dimensions of DS1 unit:** 12 x 4.0 x 4.0" /300 x 116.0 x 116.0 mm, 6.6lb/3kg

**Dimensions of the DS1 basic case/foam:** 16.2 x 12.3 x 7.2" 410x312x180 mm

**Note:** The DS1 system comes packed in a cardboard box that includes a standardized cut-out foam. This cut-out foam can be transferred to a hard case that can be obtained separately.



## Hardware and Firmware Versions

This user manual covers features up to v2.67.5 firmware. Some functionality may not be available with earlier firmware versions

Firmware updates are released on a semi-regular basis. We recommend updating to the latest available firmware version so all product features are available.

Each release has substantially different DMX modes. It is strongly recommended to use the same firmware version within at least a single DMX universe. As of versions v2.xx.x, gen-1 Wifi modules are not supported.

### Overview

- 1.16.7. Last version to support the gen-1 WiFi module
- 2.03.3. DMX changes. Art-Net WiFi gen-2 support.
- 2.67.5. DMX changes.

Conventions to make the following manual simple to follow.

- **LIGHT MODULE** - An interchangeable DS RGBW light module that is the base of all DS line products.
  - **PSU** -The power supply unit where light module is connected to. It has a control panel through which light module can be controlled..
  - **FIXTURE** - A general term referring to a light source.
-

### What's included:



**PSU** - Can also be referred to as Ballast. The brain of the operations, gives power and controls the light module.



**Light module** - has 16 RGBW LEDs under its collimator lens. Each light module has been factory calibrated with a specific profile saved into it. Constant color coordinates are kept through the dimming range using high-precision, multi-dimensional LUTs (lookup tables). The Light module stores DMX Addressing info.



**Light Module Cable** - 2ft/0.75m-long male to male connector that connects the light module to the PSU. The light module cables have identical connectors on their ends and can therefore be run either way. Does not offer couplers or daisy chaining to other head feeder cables. Can only fit in marked direction to its female counterpart. All Ends of the cable are 90 Degrees for easier cable management.

**DO NOT TWIST THE HEAD OF THE CABLE**



**Power Cable** - Standard 6ft/2m US/EU IEC Locking power Cable.





**Eccentric Lock** - Multiple purpose spring loaded locking lever.



**Diffusion Clip** - Clip designed to hold the Holographic diffusion lens onto the light module.



**Tripod Mount** - Modular tiltable tripod mount that is both a baby and junior pin.



**AC/DC Converter** - The DS1 AC/DC Converter from Digital Sputnik provides universal 90 to 260 VAC current to the DS1 power supply.



**XLR Y-Cable** - It is a pass-through cable that allows you to split the DMX signal between fixtures.



**Holographic Diffusion** - A two-sided holographic lens that determines the beam spread ( either 34 or 76°) and softens the light. Comes in 1x1, 2x1, 3x1, 2x3, and 3x3 formation.



**DS 1 Module SoftBlade** - The Single Module SoftBlade from Digital Sputnik is a triangular, blade-shaped diffusion accessory that fits over one DS module and softens its output.

### PSU interface

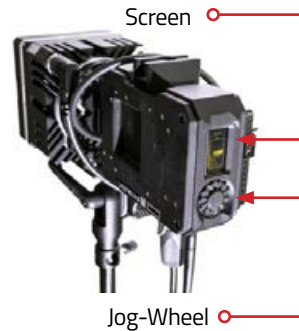
#### Jog-wheel

Rotating jog-wheel with push functionality. Center of jog-wheel acts as OK button.

#### Screen

Gateway to your DS1 system. All color parameters, settings and system information is presented on here.

For easier control, the orientation of the display screen will rotate 180° depending on the position of the PSU.



#### 1. 2.4 Ghz WiFi module antenna

Removable WiFi antenna. DS1 has a WiFi module built inside for wireless Art-Net communication.

#### 2. AC/DC Power input

The DS1 is powered by an external AC/DC power converter. It converts AC power at 110 - 240 V ~, 50/60Hz (nom.) to DC.

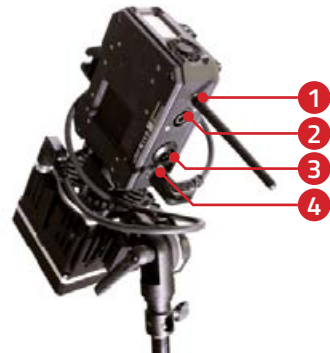
#### 3. Male 5pin XLR input connector

For DMX512 function. Use XLR-Y cable if wanting to daisy chain.

#### 4. Light Module Socket

Back of the PSU features a light module socket for communication and power feeding purposes. Light Module Cable ends and sockets can only be coupled in certain position. There are red dots on the connector and the port to act as a guide. They must be aligned accordingly.

In this process it is important to **NOT TWIST THE HEAD OF THE CABLE**. The cable head should be pushed straight in when aligned and pulled straight out.



- DO NOT TWIST THE HEAD OF THE CABLE
- DO NOT HANG THE MODULE OR PSU BY THE CABLE
- DO NOT STRAIN THE CABLE

### 5. V mount battery plate

Each PSU is equipped with a single V-Lock battery plate. The input is 12 to 36 VDC\*

**There is no power button to be found on the DS1. When wanting to interrupt power, remove battery/batteries from the PSU or disconnect the AC/DC power connector.**

*\*If needing more than one battery mount an extra battery plate can be purchased and installed separately. In the case of using two batteries, the power draw will jump seamlessly from one battery to another when the first battery is depleted. Extra battery plates in both V-lock and Gold Mount systems can be purchased in the Digital Sputnik web store and installation of the extra battery plate can be done by the user.*

*On releases prior to 2018 the DS1 PSU has two V mount battery plates by default.*



#### **ELECTRIC SHOCK HAZARD**

**Use only approved power cables. Connect only to an outlet with protective earth.**

### Attaching Tripod Mounts

The cornerstone of assembling DS1 system together is the eccentric lock. The DS1 PSU, Light Module and the Tripod Mounts all have the same eccentric lock sockets for fixture building purposes. This allows for great diversity for shaping your light fixture to your needs.

The DS1 system comes with the Light Module, PSU and Tripod Mount already assembled to one fixture. This is the standard setup of the DS1 fixture. But the fixture can be shaped and assembled any way needed to.

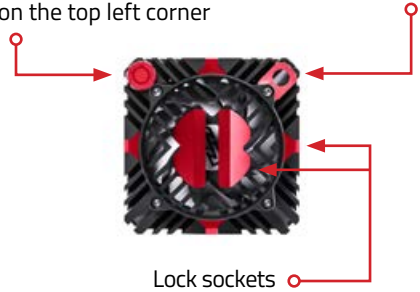
Here are some key points to keep in mind when building your fixture.

- We recommend to start the light fixture assembly with attaching the tripod Mount to the module.

**The tripod mount should be installed on the correct side of the module in correlation to the Light Module cable socket. It should always be on the top left corner when facing module from the back.**

Position the tripod mount to the side of the Light Module. You can see that an hourglass shaped opening has been formed from the eccentric lock sockets. Insert the eccentric lock halfway to the hourglass shaped socket and turn the head of the lock clockwise then tighten it.

The cable socket is always on the top left corner



Eccentric lock

If after installing the light module is able to move on the tripod mount then the lock must be tightened some more. Pull the eccentric lock out halfway twist the lever head clockwise and tighten the lock again.

- You can use the whole stem as a junior pin when the locking nut on the tripod mount is removed.
- When it comes to Fastening Tripod Mounts it is easier for the longer end of the EC Lock to be inserted on the light head first, then the Tripod mount can slide on

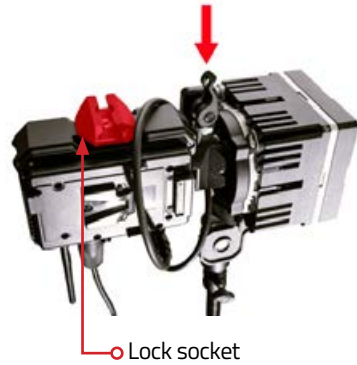
### Module setup

The DS1 PSU has two eccentric lock mounts. One on the short and one on the long side of the PSU. The mounting procedure is identical to the tripod setup.

The “default” mounting point for the module is on the short side of the PSU. It is important to make sure before the Light Module is fastened to know the orientation of the PSU so that the input sockets of the PSU (DMX IN, AC/DC) would be facing downwards. This ensures that they would not get contaminated with water or other impurities.

The Eccentric Lock socket on the long side of the PSU is for fitting the light module so it can be directed upwards or downwards. This position allows more tilt using the tripod and is the correct way to assemble the fixture when using SoftBlade accessory.

**When mounting the light fixture always secure the PSU and also the light module via the security washer positioned on the back corner of the Light Module.**



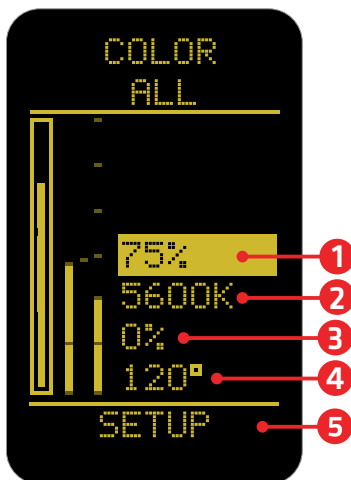
## 2.CONTROL

### Color page

From all menu pages “COLOR” menu will always be accessible from the bottom of the screen for quick manual control of the light modules.

Use the jog-wheel to navigate to “COLOR” menu and press OK when the page name is highlighted.

Whenever the PSU is controlled remotely through DMX or Art-Net, and regardless of the DMX mode used, the color mix is always expressed in ITSH values (Intensity, Temperature, Saturation, Hue) on the screen of the PSUs COLOR menu.



### Color control

Turn the jog-wheel slowly for precise control. The incremental raise of the value is influenced by the speed of which the button is turned.

Pressing down on the OK button for 1 second while highlighting any ITSH parameter will cause it to enter preset mode.

Use the jog-wheel to navigate between presets.

**1. Intensity (INT)**- expressed in percentages from 0 to 100, it serves as a dimmer.

On the **intensity** parameter, user tuned value is always saved as the starting point for the presets. The presets alternate between 0%, “user value” and 100%. When no user preset is defined it will just alter between 0% and 100%.

Furthermore, holding down the OK button for two seconds on the intensity parameter lets you increase or decrease the intensity by quarter, half or a full light stops.\*

The whole dimming range is flicker free on all DS systems products.

*\*Intensity is the only parameter with two sets of presets.*

**2. Temperature (TEMP)** – also known as white balance, is expressed in KELVIN units (K). It refers to the color temperature of the light. The lowest setting will give the warmest light, which is 1500 Kelvin. The maximum setting is 10,000 Kelvin, which will give the coldest light.

**Temperature** presets, are as follows: 1500, 3200, 5600 and 10000 K. Using the twist knob will allow increment changes of 100K.

**3. Saturation (SAT)** - is the amount of color mixed into the white light. It is also expressed in percentages, but it can go from -120 to 120%.

The SAT parameter has the possibility of reaching 120% both in the negative and positive sides. It means an absolute maximum of saturation, but be advised the area over 100% is outside of the sRGB color space.

When the saturation is at 120% positive or negative the HUE color is dominant and changing the temp of the white color (TEMP) will show no effect on the light.

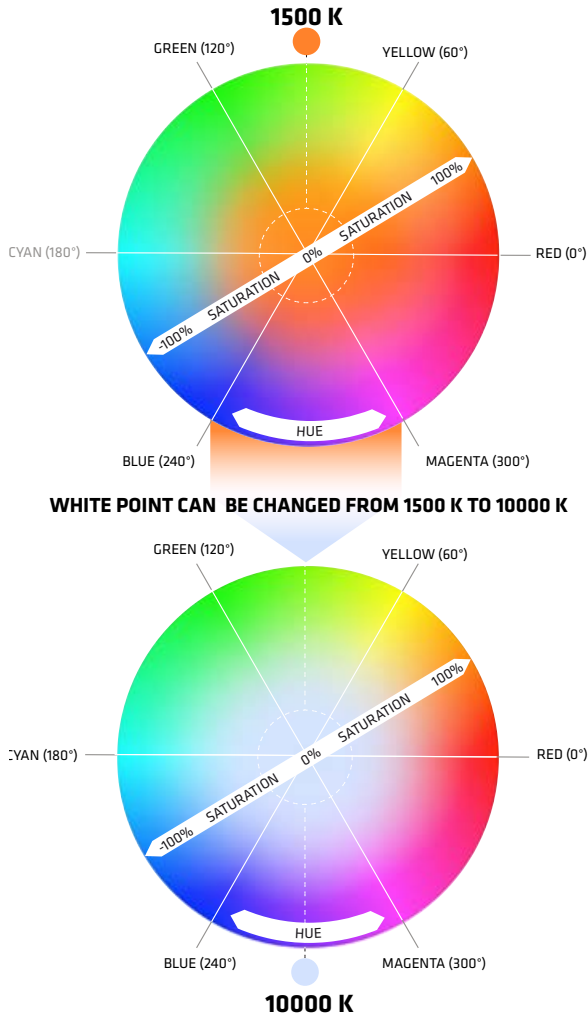
**Saturation** presets are: -120%, -100%, -50%, 0%, 50%, 100%, 120%.

**4. Hue** - It's the tint of color you are mixing into the light. It is expressed in degrees that refer to the color wheel. The Degree defines the direction of color on the color wheel, and SAT defines how much of that color is being used/mixed with the "white color" (TEMP), white being in the middle of

the color wheel. The default is 120 degrees, which means Green on the top end (when saturation is 100% or higher) and Magenta at the bottom (when saturation is -100% or lower).\*

*\*For more on the subject please refer to the next illustration.*

### Colorwheel





Please note that ITSH settings will be recorded after 6 seconds after manual input and after five minutes when consistent DMX values are sent by an external controller. These will be the starting ITSH settings after PSU reboot.

When DMX communication is active and DMX packet values are changing constantly (light animation) the ITSH values are not saved.

It is possible to control the PSU manually from the control panel of the PSU while wired DMX or ArtNet is active but please remember, the control will be transferred back to the active remote device after 30 seconds, which means ITSH parameters will change to those of the remote controller.

- Make sure to switch off the **remote mode** under "REMOTE" in the Setup menu if you intend to control your lights from the power supply.

**5. Fan Mode** - You can set the fan mode to adapt the cooling and noise level to the environment.

The fan mode can be manually set from the "Color" menu of the device.

For that, navigate to the "Setup" menu selection at the bottom. When it is highlighted, press the OK button for two seconds and then use the Jog-Wheel to scroll between values.

The table below shows the available options:

- FLEX: Minimum of approx 1,300 rpm when below 45 °C. Increases linearly to approx 2,900 rpm at 58 °C
- FAST: Always at max (approx 2,900 rpm)
- SLOW: Always at min (approx 1,300 rpm)
- OFF: Fan off until 77 °C, then turns on at minimum speed of approx 1,300 rpm, and turns back off when the temperature drops below 60 °C
- FLX2: Fan off until 45 °C, turns on and linearly increases to a maximum of approx 2,900 rpm at 58 °C \*

*\*Note: Critical temperature for a lamp module is 80 °C, upon which it is shut off. Covering the lamp unit even partially is not recommended, as it will increase the chances of it reaching this critical temperature. Consult with Digital Sputnik technical support if you have questions about a custom application in extreme conditions.*

### Setup Page

Allows the user to alter specific functionality and check working information about the PSU and light module.

To navigate between the **DS DMX** page, **SETUP** and **WiFi** pages, press OK when the page name is highlighted and use the jog wheel.

**1. Remote** - indicates the remote control mode either **DMX(Wired)**, **Art-Net(Wireless)** or **OFF**.

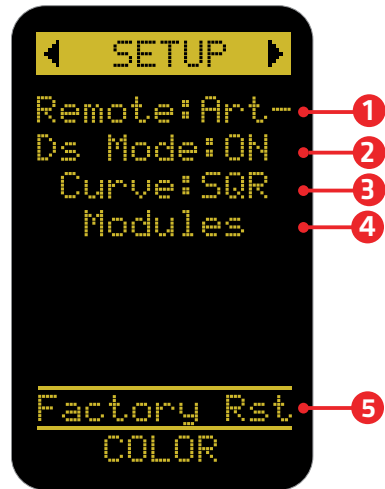
Select **OFF** to stop control by an outside device if you intend to control your lights from the PSU.

**2. DS Mode**- When turned on, the PSU will run on **DS Mode**, which is a subset of the full mode of operation, which is the DMX mode used when DS Mode selection is set to OFF.\*

DS mode is a more simplistic approach to DMX setup, eliminating the need to orientate between DMX modes, universe selection and also making channel numbering less cumbersome.

- DS mode is primarily meant to use with **DS DMX** app for iOS. If using any other control devices or controller boards switch **DS mode** to **OFF**.

\*Please refer to "DS DMX" section for more.



Setup page

**3. Curve** - changes the dimming curve of the value range. It can be set so the value is increased and decreased **linearly(LIN)** or by a **square factor(SQR)**.

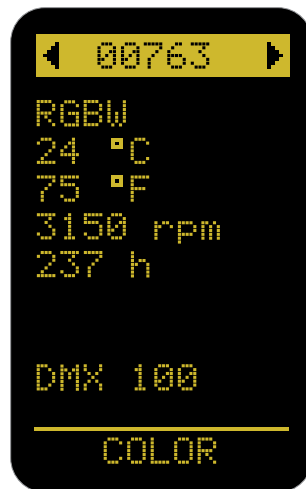
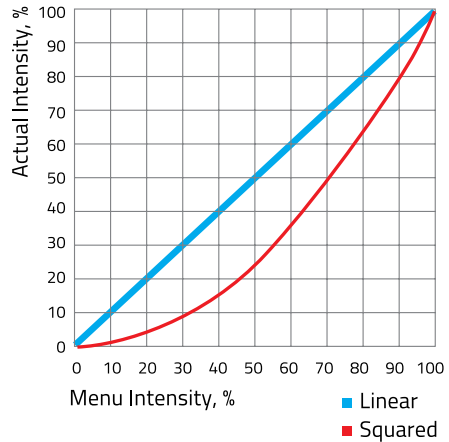
Note that when using "LIN" the light output is brighter on the whole dimming interval but **the maximum output of the module is not altered with this setting.**

**4. Module data.** It is possible to get an overview of the light module information:

- 00763 Last 5 digits of light modules serial number
- RGBW Module type whether RGBW or WHITE
- 24 °C Module temperature in Celsius
- 75 °F Module temperature in Fahrenheit
- 3150rpm Fan RPM (Rotations per minute)
- 237h Time counter of module usage
- DMX 100 DMX addressing channel assigned to the module

**5. "Factory RST"** - factory reset page that will show firmware info and allows a factory reset.\*

*\*For more information on this topic refer to "Factory reset" topic of this manual.*



Module data

### DS mode ON/DS ADDR

**“DS mode” “ON” should only be used when controlling DS1 from the “DS DMX” iOS app. When in need to change DMX universe or DMX mode set “DS mode” to “OFF” under “Setup” menu.**

DS mode is a more simplistic approach to DMX setup, eliminating the need to orientate between DMX modes, universe selection and also making channel numbering less cumbersome.

When the **DS Mode** is in use, the **DS DMX** page will be named as **DS ADDR**.

The only variable parameter on the **DS ADDR** page is the channel number of a light module.

#### DS mode ON example

- **00763:0**  
last 5 digits of light modules serial number followed by a channel address

When using **DS Mode**, DMX personality and universe settings are hidden and not modifiable.

The light modules connected to the PSU will be identifiable by the last 5 digits of their serial number. It is followed by light module's DMX **CHANNEL** number.

A DMX **channel** is the address or identification number assigned to the light module. It gives a controller an address number to send DMX packets to when wanting to control the light module.



By default it is 0 when using DS mode. DMX addressing info is stored in the light module. This means that when switching modules between DS PSUs the light module will hold it's address information.

Channels are modifiable. When using the DS mode, the **channel** numbers will go from 0 to 50.

**Up to 50 DS light modules can be independently controlled using DS mode as the DS mode only listens to communication from one universe (Universe is 0, Net 0, Subnet 0).**

**Therefore it is not recommended to use DS Mode in a configuration with more than 50 light modules.**

If “DS MODE” is “ON”, the DS1 will assume the standard DMX subset of the “DS16” personality. (Universe is 0, Net 0, Subnet 0)

### DS mode OFF/ DMX ADDR

When “DS Mode” is set to “OFF” the basic **DMX Mode** is in use. The starting page will be named **DMX ADDR**.

This mode enables control in a DMX addressing system for operating complex lighting configurations through a DMX controller or the DS DMX app when wanting to control 3rd party lighting equipment in conjunction with DS gear.

The **DMX ADDR** page on the display of the PSU will have three variables.



### DS mode OFF/ DMX mode example

- DS16 - DMX personality. Default is DS16
- Universe 0 - Defines the DMX universe for the PSU. Default is 0
- 00763: 1 - Lamp modules last five serial number digits followed by assigned address. In DMX mode the Default is 1

**Personality:** There are various personalities to choose from on your PSU. It is upon this setting that the amount of channels -or sliders on a DMX board- used to control the light module is determined. The default personality is DS16, which allocates 10 channels for each light module, thus, if the first module is assigned to channel 1, it will effectively occupy channels from 1 to 10 for the control of its parameters. In such a case, the second light module will start on channel 11, the third on channel 21, if going in succession. The number of channels -or sliders on a DMX board- used by a light module is called footprint.

Please take a look at the Personality chart below.

Use the 16 bit modes in combination with controllers supporting 16 bit resolution to obtain best results. The high resolution provides smooth dimming and precise color adjustments. The coarse / fine modes utilize two channels for most parameters and provide higher resolution compared to the 8 bit modes.

### Various DMX personalities

Mode	Description	Number of channels
DS16	Standard DS modes.	10
DS8	DS MODE=ON uses DS16 by default.	5
ITSH16	Similar to DS8/16, with positive saturation.	10
ITSH8		5
XFADE16	Crossfade modes	16
XFADE8		9
RGB8 (no fan control)	Basic RGB + Temperature modes	4
iRGB8		6
ARRI6	ARRI RGBW crossfade modes	17 + 3 unused = 20
ARRI1		9 + 3 unused = 12

\*Note: For more information about DMX personalities visit [www.digitalsputnik.com](http://www.digitalsputnik.com).

**Universe:** Each DMX universe holds 512 channels or addresses.

When using wired DMX 512 the Universe number in the DS ADDR menu is read-only and corresponds to the last byte of the full DMX universe (512). This value must be bound to the universe number in the transmitter (for example, using a macro or a script). This can be used to visually identify the correct DMX daisy-chain.

When using wireless Art-Net the universe can be changed from the PSU with a turn of the knob. When the knob is pushed down on the universe variable, the Net, Subnet and Universe variables can all be modified.

**Channel:** This selector is for changing the DMX address of a light module. The basic principles are the same as with the DS mode turned on, although with a few exceptions:

- When the DS mode is turned off, the default channel for a module will be 1 instead of 0, and **channels** go from 1 to 512.
- Using the jog-wheel will result in the movement of numbers in intervals dependant on the amount of channels your selected DMX profile uses.

*As of firmware 2.67.5 addressing a lighthouse manually by a single digit **is not available for DS1**. This can be achieved remotely using RDM instead. This is an oversight and will be fixed in the next software release.*

**DMX channels 511 and 512 are used for the purposes of Port-Address (Universe) identification, and are ignored if used for the purposes of channel control. The last available DMX channel for addressing is 510.**

### WiFi page

Network information can be found on the WiFi page of the menu.

To navigate between the **DS DMX** page, **SETUP** and **WiFi** pages, press OK when the page name is highlighted and use the jog wheel.

**This page is only visible when the “RE-MOTE” mode on the setup page is set to “WiFi”.**

Depending on whether the PSU is set to Server or Client mode, the information presented on the WiFi page will differ:

#### Server mode:

The WLAN Server mode is the default mode. The created wifi network name is by default the Serial of the DS1 PSU. The serial can be found on the side of the DS1 PSU on a silver background sticker. This WiFi network is capable of supporting up to 4 other DS PSUs as clients, plus a controller. Larger networks require a dedicated router.



#### Server mode example

- WLAN Server  
WiFi module is in the “Server” (Access Point) mode
- DS016240019  
WiFi network name (SSID),  
either assigned by the user from the DS DMX app, or the default S/N as printed on the side of the DS1 PSU
- 1.2.3.4  
IP address of this WiFi module

### Client mode:

Through the DS DMX app for iOS, it is possible to connect the DS1 to another DS Art-Net enabled PSU, or to an existing WiFi network (a wireless router).

If possible connect the DS1 to a DHCP enabled router. This ensures that the IP address, gateway, DNS1 and DNS2 are automatically assigned to the fixture by the network. If needed the IP address of the handle can be altered using DS DMX app.

### Client mode example

- WLAN Client  
WiFi module is in the "Client" mode. It is connected to another device or a router.
- Router\_X  
Name (SSID) of the target network
- DS0162400190172  
Hostname of this WiFi module
- 192.168.1.101.  
IP address of this WiFi module

### "AWAITING WIFI"

This text is displayed when the WiFi module has not yet finished acquiring its settings.



### "CAN'T JOIN" / "WRONG PASS"

This is displayed on the bottom of the WiFi page when the module is unable to connect to the assigned Access Point either due to a name mismatch, the Access Point being unavailable, or a wrong password. The DS WiFi module will try to periodically reconnect to the appointed Access Point using its last known settings. If the issue cannot be rectified, "Reset WiFi" must be performed.



## Reset WIFI

This setting is used to reset the WiFi module to the default Server (Access Point) setting with the Serial Number of the DS1 PSU as its network name (SSID).

**The Serial Number can be checked on the side of the DS1 PSU.**

Press OK a total of 3 times to activate this function. The WiFi reset takes about 15 seconds to perform.

Defaultly there is no password needed to connect to the WiFi network.

It is not possible to manually change the IP address from the control panel of the DS1. As of this Firmware v2.67.5 RDM management over Art-Net is not supported. RDM over DMX allows configuration, status monitoring, and management of the light from the external controller in a way that does not disturb normal DMX operation.

## Troubleshooting Art-Net, sACN

Firewalls and certain routers can cause issues with sACN multicast (packets are sent to every IP address of the router range.) Some routers are also known to buffer Art-Net broadcast packets more heavily than unicast packets, leading to slower than expected framerates. During troubleshooting, it is recommend-



ed to try unicast (packets are sent to one determined IP address) with the firewalls (temporarily) turned off first to establish a baseline.

When transmitting data via Art-Net or sACN protocols to DMX, make sure that the transmitter is configured to the correct universe. Note that sACN universe numbers often start from 1, and Art-Net universe numbers may start from 0.

In DS firmware release versions up to and including v2.67.5, Short DMX packets are not supported, and only full 1+512 DMX packets must be sent.

## Factory reset

A factory reset can be performed in order to change PSU settings to their default values. This option is located on the bottom of the SETUP page.

The following parameters will be changed:

- Intensity = 0%, Temperature = 5600K, Saturation = 0%; Hue = 120 degrees.
- DMX personality is set to DS 16.
- All cached Lamp Unit Calibration Tables (LUTs) will be cleared. The next boot-up will be slower due to the need to reload calibration table for connected Light module.
- The dimming curve will be set to SQR (Squared).

This reset will **not** change:

- The DS MODE setting
- WiFi settings (these are stored in the WiFi module)
- DMX addresses of light modules (these are not stored in the PSU)

Main Program (MP) and Bootloader (BL) software versions can both be revised from this page as well.

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## Upgrade

All Digital Sputnik PSUs are upgradeable by the user. A Windows or macOS Upgrade Utility can be downloaded from the Digital Sputnik webpage. The update can be performed via the DS WiFi module, or through a wired connection (DMX to USB cable with FTDi chip available for purchase at [www.digitalsputnik.com](http://www.digitalsputnik.com)).

Perform a Wifi reset before upgrading DS1 over WiFi.\*

*\*Refer to "WiFi Page"*

## Bootloader Mode

If there have been firmware updating issues (for example, due to a bad WiFi signal), the Windows/macOS DS Upgrade Utility must be allowed to run again.



```
BOOTLOADER  
FIRMWARE  
UPGRADE  
v1.11.5  
DEVICE ID:  
1008005  
BOOT: MP
```

---

```
ALL TO BL  
ALL TO MP  
<NONE>
```

**Warning codes (flashing codes)**

Code	Description
ArtDMX	ArtDmx stream is incoming from the WiFi module. Works under Remote=WiFi only.
DMX	DMX stream is incoming from the XLR-5 pin on the DMX/RDM handle. Works under Remote=DMX only.
"LOADING WIFI" or "AWAITING WIFI"	WiFi settings are being acquired from the WiFi module. If there are problems with communications this message may stay active in the WiFi menu indefinitely.
"RESETTING WIFI"	WiFi is being manually reset.
EL1	LED power delivery issues.
FW1	Firmware version mismatch in a stack.
OW##	Lamp Unit Communication. Various errors related to the calibration LUT acquisition failure.

**Error codes****Critical/blocking codes; the device attempts to clear these every 30 seconds.**

A manual attempt to clear the error can also be made on the DS1 from a single device or Master (topmost) device in a stack, by pressing OK when the code is on screen. But when the problem persists the code reappears immediately.

Code	On screen message	Description
0	ERROR	Generic error
1	FAN SLOW	Fan fault, fan too slow
2	LAMP HOT	Lamp too hot ( $\geq 80$ C)
3	PSU HOT	Dimmer board too hot (IRQ, over 80...85 C)
4	WRONGLAMP	Unsupported lamp type, likely a new release
5	CABLE ERR	Cable error
6	ACDC ERR	AC/DC error
7	1-WIRE ERR	1-Wire error (unable to communicate with lamp unit)